AMENDMENTS TO THE CLAIMS:

Please amend claim 9, as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A method of manufacturing a semiconductor device, comprising:

forming an insulating film on a silicide layer formed at the surface of a silicon semiconductor substrate;

etching the insulating film to form a contact hole in which the silicide layer is exposed;

forming a metal nitride film on the bottom and side wall of the contact hole;

carrying out a first heating process at 600°C or lower on the substrate;

carrying out, during the first heating process, a second heating process for 10 msec or shorter with light whose wavelength is shorter than a light absorption edge of silicon;

forming a contact conductor in the contact hole after the second heating process; and

forming, on the insulating film, wiring that is electrically connected to the substrate through the contact conductor;

wherein during the second heating process the silicide layer is converted from a mono-silicide to a di-silicide layer.

2. (Original) The method as claimed in claim 1, wherein the metal nitride film contains at least one of titanium, tantalum, niobium, vanadium, hafnium, and zirconium.

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3. (Original) The method as claimed in claim 2, wherein the metal nitride film contains a metal halogen compound.

4. (Original) The method as claimed in claim 1, wherein the light is xenon (Xe) light.

5. (Original) The method as claimed in claim 1, wherein rare gas atmosphere is employed in the first heating process.

6. (Original) The method as claimed in claim 1, reducing gas atmosphere is employed in the first heating process.

7. (Original) The method as claimed in claim 6, wherein the reducing gas atmosphere is atmosphere containing NH_3, H_2, and B_2H_4.

8. (Previously Presented) A method of manufacturing a semiconductor device, comprising:

forming an insulating film on a silicide layer formed at the surface of a silicon semiconductor substrate;

etching the insulating film to form a contact hole in which the silicide layer is exposed;

forming a metal nitride film on the bottom and sidewall of the contact hole;

carrying out a first heating process at 600°C or lower on the substrate;

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carrying out, during the first heating process, a second heating process for 10 msec or shorter with light whose reflection coefficient for metal including the metal nitride film is 0.5 or lower;

forming a contact conductor in the contact hole after the second heating process; and

forming, on the insulating film, wiring that is electrically connected to the substrate through the contact conductor;

wherein during the second heating process the silicide layer is converted from a mono-silicide to a di-silicide layer.

9. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a metal film on source/drain regions formed at the surface of a silicon semiconductor substrate and on a polysilicon gate electrode formed on a gate insulating film that is formed on the substrate between the source/drain regions;

carrying out a first heating process on the substrate, to change the metal film into a metal monosilicide film;

removing unreacted parts of the metal film;

carrying out a second heating process at 600°C or lower on the substrate; and

carrying out, during the second heating process, a third heating process for 20 msec or shorter with light whose [[main]] wavelength is shorter than a light absorption edge of silicon, to change the metal monosilicide film into a metal disilicide film;

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wherein during the second heating process the silicide layer is converted from a mono-silicide to a di-silicide layer.

10. (Previously Presented) The method as claimed in claim 9, the metal film is selected from the group consisting of cobalt (Co), titanium (Ti), nickel (Ni), hafnium (Hf), zirconium (Zr), palladium (Pd), or platinum (Pt).

11. (Withdrawn) A method of manufacturing a semiconductor device, comprising:

forming a gate insulating film on a semiconductor substrate;

forming a polysilicon film on the gate insulating film;

implanting impurities into the polysilicon film;

forming a silicon nitride film on the polysilicon film;

heating the substrate to 300 to 650°C;

irradiating, during the heating of the substrate, the silicon nitride film with white light having a wavelength of 200 nm or longer at 10 to 100 J/cm^2 for 10 msec or shorter at least once; and

patterning the polysilicon film and silicon nitride film, to form a gate electrode made of the polysilicon film covered with the silicon nitride film.

12. (Original) The method as claimed in claim 5, wherein the silicon nitride film is formed by CVD (chemical vapor deposition) using a reaction between ammonia and one of dichlorosilane and hexachlorosilane.

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13. (Withdrawn) A method of manufacturing a semiconductor device comprising:

forming a gate insulating film on a semiconductor substrate;

forming a first polysilicon film on the gate insulating film;

forming an inter-electrode insulating film on the first polysilicon film;

forming a second polysilicon film on the inter-electrode insulating film;

forming a metal silicide film on the second polysilicon film;

heating the substrate to 300 to 650°C;

irradiating, during the heating of the substrate, the metal silicide film with white light having a wavelength of 200 nm or longer at 10 to 100 J/cm^2 for 10 msec or shorter at least once; and

patterning the metal silicide film, second polysilicon film, inter-electrode insulating film, and first polysilicon film, to form a gate electrode structure including a floating gate made of the first polysilicon film, the inter-electrode insulating film, and a control gate made of the second polysilicon film and metal silicide film.

14. (Withdrawn) A semiconductor device comprising:

a semiconductor substrate;

source/drain regions formed at the surface of the substrate;

a polysilicon electrode formed on a gate insulating film that is formed on the substrate between the source/drain regions; and

a metal silicide layer formed on the gate electrode and source/drain regions,

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a distance between the bottom of the metal silicide layer on the source/drain regions and a junction between the bottom of the source/drain regions and the substrate is shorter than 100 nm.

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